AMENDMENT TO THE SPECIFICATION:

Please amend the Specification as follows:

On Page 1, amend the last paragraph as follows:

At present, there are many types of devolatilizers in industrial operation. Among them, an in-tube falling film devolatilizer and a down-flowing liquid column (droplet) devolatilizer may provide fairly large gas-liquid interfaces which, however, are hardly renewed, and the residence time is not controllable, and devolatilization efficiency may be influenced adversely due to the insufficient residence time. Horizontal devolatilizers with a single/double-shaft, multiple discs (meshes) stirrer, meanwhile, can effectively renew the interface to a certain extent and control the residence time by adjusting liquid level; however, their structures are excessively complex and fabrication and operation costs are high. To ensure film coverage, the liquid layer must be kept at a sufficient depth at the bottom of such devolatilizer, in which case the hydrostatic head will have a negative impact on the devolatilization efficiency.

On Page 2, amend the third and fourth paragraph as follows:

The novel grid falling film devolatilizer, according to the present invention, comprises: (1) a tower housing, (2) a liquid distributor, and (3) ~~a tower internal~~ an internal tower. The tower housing is formed generally in the shape of a cylinder, but it may have a square or a rectangle cross-section when used in low pressure applications. It provides the desired temperature and pressure environment according to the devolatilization operation requirements. The tower housing includes a top cover (1-1), a tower body (1-2) and a tower bottom (1-3) which are connected via flanges; or, alternatively, the tower body and the tower bottom can be fabricated as an integral part. The top cover has a feeding inlet *a* and a gas discharging outlet *c*. The tower bottom has a material discharging outlet *b*. The top cover, the tower body and the tower bottom are covered by thermal insulation jackets or outer coils and are equipped with one or more pairs of HTM inlet *d* and outlet ,*e* respectively. And besides the aforesaid nozzles, various instruments or other necessary connections may be installed.

The liquid distributor is disposed below the top cover or inside the upper portion of the tower body in connection with the feeding inlet, and performs the function of distributing the materials fed into the tower uniformly on the first grid tray. The internal tower ~~internal~~ generally has a square cross-section, while it may be rectangle or other shapes as well, and consists of pillars (3-1) and multiple grid trays (3-2). The tower internal performs the function of forming a large film surface of the materials and regenerating the film surface continuously. The internal tower ~~internal~~ may have four pillars which are generally made of a steel angle or other steel shapes and positioned at the corners of the square or rectangle cross-section of the internal tower ~~internal~~. The hangers (3-1-1) provided on the upper part of the pillars (3-1) are mounted and fastened with bolts on the supporting brackets (1-2-1) fixed on the upper part of the tower body (1-2) so that the internal tower ~~internal~~ is mounted inside the tower housing in an easily removable manner. The locating blocks (3-1-2) are provided on the lower part of the pillars (3-1) and the matching stoppers (1-2-2) are provided on the lower part of the tower housing. This configuration limits the swing of the bottom of the internal tower ~~internal~~ while allowing the slide up or down of the internal tower ~~internal~~ inside the tower housing due to expansion or shrinkage of metallic materials as temperature varies.

On Page 3, amend the last paragraph as follows:

The number of the grid trays in the internal tower ~~internal~~ is subject to the desired number of times of film renewal as per process requirements, which is generally 2 to 500 and preferably 5 to 200. Each grid tray comprises a pair of beams (3-2-1), a plurality of (at least two) grid bars (3-2-2) and corresponding guide members (3-2-3). A typical unit configuration of the pillars, beams, grid bars and guide members in a grid tray is shown in Fig. 2. The beams are located at opposite ~~pair of~~ sides of the grid tray. Beams on the same grid tray are in the same horizontal plane, and are fixed to the pillars by welding or with bolts. Beams in two neighboring grid trays are arranged parallely or cross at 90°. The difference between the horizontal elevation of neighboring grid trays, referred to as layer interval, is usually in a range of 20 to 500mm, preferably 40 to 250mm, and the ~~ayer~~ layer intervals between each neighboring grid trays may either be equal or not equal. The number of the grid bars in each grid tray is subject to the flow rate and viscosity of the devolatilization system, the dimension of the tower, and the

perpendicularity of the grid bars to the beams. Each grid tray may have single, double or multiple tiers of grid bars arranged horizontally and parallely. The grid bars may have a cross-section of triangle or reverse "V" shape formed by bending thin metal strips. Alternatively, they may adopt a circular or rhombic tube or have a cross-section in other shapes. The outmost grid bar is formed as an incline or a bent strip (3-2-2') which presents a larger vertical surface, and serves as a baffle for maintaining the liquid level in the grid tray. The grid bars are fixed on the beams by welding or inserting perforated beams.

On Page 4, amend the first and second paragraphs as follows:

The width and height of the grid bars are subject to (i.e. depend on) their rigidity: the longer the grid bars are, the larger the width and the height (mainly the height) of the grid bars should be. This ensures that the flexibility of the grid bars will not exceed the allowable range. The gap width between two neighboring grid bars, referred to as 'grid gap', is one of the crucial factors determining the devolatilization efficiency. Grip gap should be determined by calculation of parameters such as viscosity, surface tension, concentration of the volatile components in the materials, flow rate and operating pressure, etc., or by experiments. Under high viscosity and high flow rate circumstances, the grid bars can be arranged in two or more tiers in a grid tray to improve the throughput capacity. Meanwhile, the grid bars in upper and lower tiers may have the same or different width. When viscosity or gas content in the materials changes greatly in the devolatilizer, the width and/or the number of the grid bars in each tier should be adjusted gradually from top to bottom so as to change the gap width.

The guide member consists of the guide mesh (wires) (3-2-3-1) and the clamp (3-2-3-2) for fixation of the guide mesh (wires). The guide mesh (wires) may be metal wires, woven metal wire, metal sheet, perforated metal sheet, or expanded metal mesh that presents rhombus holes which may be formed by cutting and stretching metal sheet. If heat addition or removal is desired inside the devolatilizer, the guide mesh may employ a tube array as shown in Figure 3. The tube array is formed by joining two corrugated sheets in a face-to-face manner and fixing them with butt welding, and ~~introduce~~ introducing a heating or cooling medium thereinto. The guide mesh (wires) may be made from non-metal materials, such as plastics, etc. under lower operating temperature. The guide members are disposed between two neighboring grid bars and are

parallel to the grid bars, the corresponding clamps are welded with the beams or inserted in perforated beams to fix them therein. The outmost clamps (3-2-3-2') are extended to be higher than others and serve as baffles for keeping the liquid level in grid tray; or, alternatively the guide mesh (wires) can be directly fixed under the grid bars without clamps.

On Page 5, amend the sixth paragraph as follows:

3. There are three alternative structures as ~~followed~~ follows for the overflowing film-forming mechanism in which grid trays are arranged in the same direction:

On Page 6, amend the fourth and fifth paragraphs as follows:

The materials are fed into the tower through the feeding inlet *a* at the top of the tower, and fall onto the first grid tray uniformly through the liquid distributor, then pass through the grid gaps and generate films along the guide meshes (wires). The films are baffled by grid bars in the second grid tray, and materials pass through the grid gaps in the second grid tray and generate films along the guide meshes (wires) in the second grid tray. Once again, the films are baffled by grid bars in the third grid tray, and materials pass through the grid gaps in the third grid tray and generate films along the guide mesh. This continues until materials pass through the grid gaps in the lowermost grid tray ~~to~~ and fall down to the tower bottom, and then leave the tower via the material discharging outlet *b*.

The gases which escape from the film surface during the process pass through the narrow space between the liquid films, rise upwards through the arc-shaped area between the tower housing (1) and the internal tower ~~internal~~ (3) and gather at the top of the tower, then leave the tower via the gas discharging outlet *c*.

On Page 8, amend the last paragraph as follows:

Example 1: final polycondensation tower for high-viscous polyester

The tower has a diameter of 1600mm and a height of 8000mm. The internal tower ~~internal~~ has a size of 1000mmx1000mmx6000mm and comprises 80 layers of grid trays which are

arranged crosswise in an overflowing film-forming manner. The layer interval of the two uppermost grid trays is 15mm and that of the bottommost grid trays is 37.5mm. The pre-polymers introduced into the tower have an intrinsic viscosity of 0.3 and a temperature of 285° Celsius and a flow rate of 2,500kg/hr. The pressure in the tower is 100Pa. The intrinsic viscosity of polymer leaving the tower increases to 0.85.

On Page 9 amend the last paragraph as follows:

The degassing tower is 1600mm in diameter, 7500mm in height. The internal tower ~~internal~~ has a size of 620mmx620mmx5000mm and comprises 80 layers of grid trays which arranged in a hybrid style as per the abovementioned Configuration C. The layer interval is 8mm. The solution of ethylene oxide with 2% CO_2 is fed into the tower, and the temperature is 40° Celsius, the flow rate is 60,000kg/hr. The pressure in the tower is 0.135MPa. The CO_2 in the solution of ethylene oxide leaving the tower is removed completely.